

Attorney Docket
7081IN THE SPECIFICATION

Please amend the paragraph beginning at line 21
of page 3 as follows:

*A1
cancel.*

FIG. 1 is a an overview block diagram of an
MPEG on-screen display coder in accordance with the
present invention;

Please amend the paragraph beginning at line 20
of page 14 as follows:

*A2
cancel*

The following sequence of events is required to
properly turn on the on-screen display so as to keep the
digital television's decoder well behaved by allowing
underflow but never overflow: (1) an on-screen display
turn on request is signaled to the encoder 16 and to the
on-screen display turn on/off sync block 20 by the user
or automatically; (2) the on-screen display turn on/off
sync block 20 signals the multiplexer 22 to select the
input B (null packets); (3) the on-screen display turn
on/off sync block 20 monitors the on-screen display
packet buffer 28 and switches to the input C when packets
are available. These packets will be available after the
video hold time has expired and the MPEG decoder 24 ~~with~~
within the encoder 16 has signaled the MPEG encode engine
26 to start. This procedure allows the digital
television's decoder buffer to briefly underflow,

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cancel.*

typically precipitating a freeze frame just before the on-screen display appears. This procedure also prevents overflow of the digital television's decoder buffer.

Please amend the paragraph beginning at line 16 of page 22 as follows:

*A3
cancel.*

In the Level 2a implementation, the I frames have no overlaid graphics, which may in some case cause a visible flicker. This problem is solved in Level 2b. In Level 2b, ~~The~~ the incoming original I frames are partially decoded and overlaid with the graphics selected by the user or automatically. The I frame is then re-encoded with the same quantization, VLC table, and DCT coefficient selection as the original I frame. In this way, the number of bits in the overlaid I frame matches the number of bits in the original I frame. The incoming P and B frames are deleted and replaced by locally generated P frames that are perfectly predicted from the locally generated previous frame with the residuals and the motion vectors set equal to zero.

Please amend the paragraph beginning at line 20 of page 32 as follows:

*A4
cont'd*

This method continuously displays the original video in a subsampled manner as a small window on top of

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*A4
concl.*

full screen displays. The original MPEG video is decoded, subsampled, and squeezed down to a small size. These operations can be done with a standard MPEG decoder followed by filtering and downsampling or alternatively can be achieved with a modified lower cost MPEG decoder that directly produces a ~~downsampling~~ downsampled image (referred to as MPEG downconversion or all format decoding according to several published methods). Then, in the spatial domain, this downsampled image is placed on top or transparently mixed with the desired on-screen display. This combination is then MPEG encoded. The encoding is constrained by the number of bits in the original video frames. This encoding should be achievable because the locally encoded frames consist of a small, less detailed version of the original video on top of a static background.
